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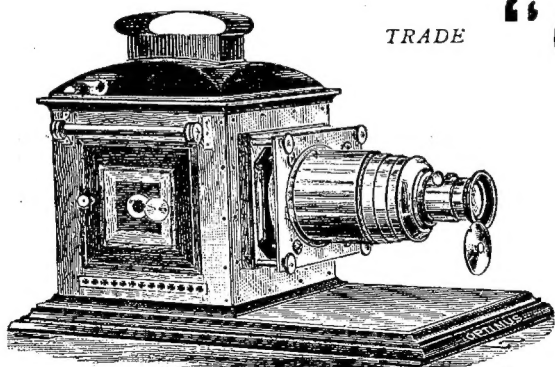
WITH WHICH IS INCORPORATED THE "LANTERN WORLD."

EDITED BY
J. HAY TAYLOR.

Vol. 12.—No. 143.

APRIL, 1901.

[Entered at Stationers' Hall.]
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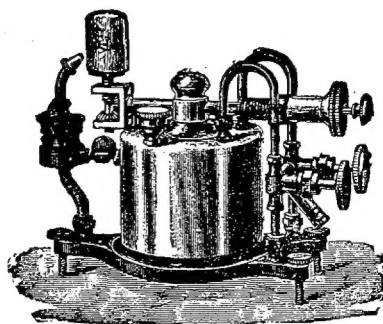
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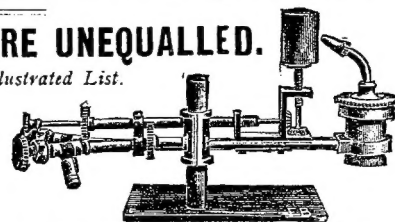
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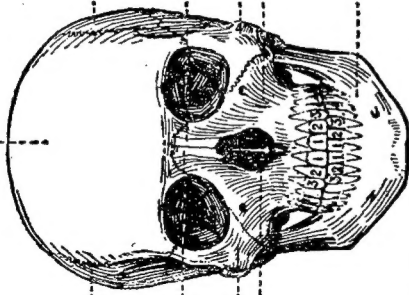
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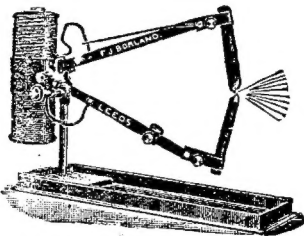
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NOTICES.

The Optical Magic Lantern Journal and Photographic Enlarger is issued on the 1st of every month, price Two Pence, and may be obtained from all Newsvendors, Railway News Stalls, Photographic Dealers, or from the Publishers, at the following rates, post free:—

12 months, 3/- United States, 75 cents.

EXCHANGE Column, General Wants, &c. (not Trade)—First 20 words, 6d.; and for every 3 additional words, 1d.

SMALL ADVERTISEMENTS must reach the office not later than the first post on the 24th of each month. All cheques and postal orders to be made payable to the Magic Lantern Journal Company, Limited.

EDITORIAL communications must be addressed, **J. HAY TAYLOR**, Advertisements and business communications to **THE MAGIC LANTERN JOURNAL COMPANY, Limited, 9, Carthusian Street, London, E.C.**

American Agents:—The International News Co., 83 and 85, Duane Street, New York City.



The Humanitarian League Slides.—The Humanitarian League is prepared to lend sets of slides with lectures suitable for juvenile audiences. So far, we understand that they have prepared about thirty-five lectures. According to the subject, the number of slides for each lecture ranges from one to four dozen pictures. The address of the Hon. Sec. is 5, York Street, Covent Garden, W.C.

Railway Construction and Acetylene Light.—The contractors for the Whitechapel and Bow Railway, now in course of construction, are enabled to work night and day shifts, owing to the amount of light obtained from eight of the Thorn & Hoddle Acetylene Company's gas generators, which are sufficiently portable to conveniently meet all necessary requirements.

What is a Bicarbon Lantern?—The *Newsman*, of February 16th, gives a short account of an illustrated lecture held at Ongar, in the

concert room of the "King's Head Hotel," and states that the lecture was "illustrated by a powerful bi-carbon lantern." It was said to be manipulated by Mr. Willgosse. This gentleman will, we presume, prefer to term his lantern a "bi-unial" and not a "bi-carbon."

* * *

Thornton Film Company Prizes.—For the present the following prizes are offered by the Thornton Film Company, Limited, of Altrincham, Cheshire, for the best prints made each month on either their Simplex or Bromide papers:—20s., 10s., and 5s. A two guinea camera is also given each month for the best negative made on their film.

* * *

E. G. Wood's Business.—A meeting of creditors of the estate of the late Mr. A. A. Wood, trading as E. G. Wood, 1 and 2, Queen Street, E.C., was recently held. It was decided that out of the assets in hand 4s. 6d. in the £ should be paid, and that the remainder of the estate should be vested in Mr. E. S. Howard, 15, Walbrook, E.C., for the benefit of creditors. The liabilities amount to £3,311 19s. 9d., and the net assets £1,186 14s. 2d. We understand that the business has been sold to Mr. Halsey, and will be carried on by that gentleman. Mr. Wood's son, who at one time was in the business, is now in South Africa.

* * *

"How to Preach (or Lecture) with Power."—This is the title of a book lately written by the Rev. W. H. Young, of Athens, Georgia, U.S.A. It is mainly intended for the church preacher, but lecturers of all kinds will find it of particular interest. Mr. Young, who has achieved great fame as a preacher and lecturer, gives most valuable points. As an example we will give a synopsis of a few chapters:—In Chapter VII. there is a method of collecting and preserving thoughts as needful for the lecturer as the preacher. Chapter X. gives an excellent vocabulary, 90 per cent. Saxon. Chapter XII., on readiness of speech, will aid any public speaker. Chapter XIII. tends to develop literary originality quickly. Chapter XV., on correct breathing, is needed by every speaker. Chapter XVI. explains personal magnetism, and outlines a course that has proved very beneficial to a large number who have tried it. Chapter XVII. gives good training

in distinct articulation. Chapters XIX. to XXII. unfold the latest methods of elocutionary training, with complete exercises in voice culture, gesture and attitude. Besides these evident advantages, there are valuable suggestions on the construction of a speech or lecture in the chapter on "Sermon Architecture." More ground is covered than is to be expected in a single volume, and lanternists owe it to themselves to get what is ready for them. This book may be said to be different from others on the subject, in that it tells exactly *what* to do, rather than what *not* to do, and is, therefore, perhaps the most practical work issued on the subject. It can be had from Elliott Stock, Paternoster Row, London, E.C., price 6s.

* * *

The "Idler."—With the current number the publication of the *Idler* has been placed in the hands of Messrs. Dawbarn & Ward, Ltd., of 6, Farringdon Avenue.

* * *

Lime Cylinder Company.—We note that the Nottingham Lime Company, whose chief office was at one time in Egerton Street, Nottingham, and which was for a long time closed and advertised for sale, has come to life again. An office has been opened at Stamford Street, Waterloo Road, S.E., to which it is requested all communications are to be addressed. No names of managers, partners, etc., are given in the circular sent to us, and we note that the testimonials which they publish from Messrs. Staniforth, Haigh, Woodruff and Lock are all dated 1898.

* * *

Kodak Dividend.—For the quarter ending March 31st the directors of Kodak, Ltd., have declared dividends on the preference and ordinary shares at the rates of 6 and 10 per cent. per annum respectively. These are payable to-day (April 1st).

* * *

Everton (Liverpool) Camera Club.—The photographic exhibition of this club, which was held on the 13th, 14th and 15th ult., was a great success, the pictures exhibited being of high class. Each evening numerous lantern slides by members were exhibited on the screen and a number were also displayed on a frame specially designed and made by the club lanternist, Mr. H. H. Ward, whose writings, we may remark, are frequently to be seen in our columns.

Vapour Light for Lanterns.

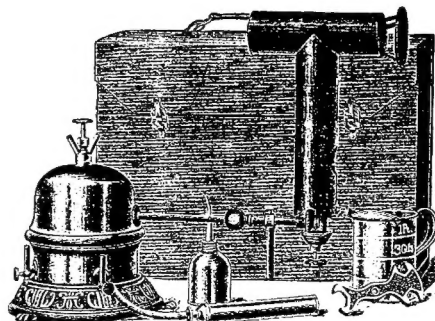
RELATIVE to the description of a vapour light for lanterns, which appeared in our February issue, we have received a communication from the McIntosh Stereopticon Company, of 35 and 37, Randolph Street, Chicago, U.S.A., in which they inform us that they have devised an improved light for lanterns, based somewhat on the same principle as that which we described. This form of illumination they term "The Helios Vapour Lamp." As we have had no opportunity of seeing or trying this particular lamp, our readers must be content for the present if we give an illustration of it and quote from the details furnished by the firm mentioned; consequently, it must be kept in mind that in the following details we are not expressing our own opinion:—

"The Helios Vapour Lamp," the makers explain, "consists of a copper tank, oval in shape, with an iron supporting base, both finished in antique copper. From the side of the tank projects a tube 8 inches long, supporting the burner, which is at the same time the gas generator. Inside the chimney, supported over the burner by a wire, is a special mantle, differing from the well-known Welsbach gas burner only in having an extra heavy coating of the light-giving oxide. The burner tube, after piercing the side of the tank, is

bent downwards

so that the open end is near the bottom. In operation the tank is half filled (one and one-half pints only) with ordinary stove gasoline, by unscrewing the filling plug on top, which also contains the air valve. The space above the gasoline is filled with compressed air, by means of the air pump, in the same manner as a bicycle tyre is inflated. A small amount of alcohol is put into the small brass cup immediately under the chimney, by means of the oil can, and the alcohol ignited. When entirely consumed the burner is heated sufficiently, so that when the gasoline is allowed to flow into it, by opening the gasoline valve, gas will form and burn, when ignited, the same as ordinary gas, but as the heat of gasoline gas under pressure and mixed with air is more intense, the mantle emits about three times as much light as when used with common gas at ordinary pressure. One pumping of air is sufficient for nearly three hours' use. After once being properly started the lamp needs practically no attention. The

mantle having been once ignited is very delicate, and although it can be used for a number of times, if the lamp is carefully put away, without jarring, it will not stand shipment without breaking. The cost of the mantle, although very small, is practically the only expense, as two or three cents worth of gasoline will run the lamp for two hours or more. The mantles, contained in neat cartons, can be carried anywhere before ignition without danger of breakage. If the operator should find at any time the supply of mantles exhausted, he can buy one of any make commonly used and proceed with the entertainment. No stock of chemicals need be carried, as in the case where acetylene is used, as gasoline can be purchased at almost any grocery or drug store, and as its cost amounts to almost nothing, there is no object in purchasing in quantities. The apparatus is extremely simple and as safe and easy to operate as an ordinary gasoline stove. The light from the Helios Vapour Lamp stands next to

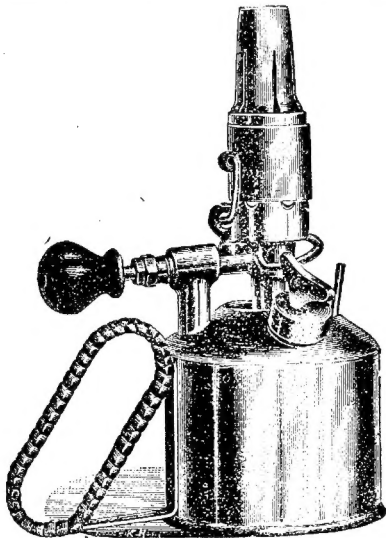


calcium in brilliancy, but cannot be spoken of as a rival except for use in small audience rooms, when its cheapness and convenience will be greatly appreciated by the lecturer and exhibitor."

In the above sketch of this vapour lamp it will be noticed that the chimney or hood is of peculiar shape, this is, we understand, the style employed with certain American lanterns of the skeleton type, which have no body but begin with the condenser and end with the objective, but when used with what we in this country consider an ordinary lantern, the upper part of the cowl can be unshipped and the burner attached to an ordinary jet tray.

Being particularly desirous of trying a light somewhat of this nature, or to put it in other words, to use a lantern when it was supposed that neither house gas, kerosene, acetylene, oxygen, etc., were obtainable, we, through the kindness

of Messrs. Moeller & Condrup, of 78, Fore Street, E.C., borrowed from them what is known as a plumber's lamp, of the style shown in sketch, and with this we gave a domestic exhibition in a room about 25 feet long. Before trying it we removed the bottom of the lantern, so as to adjust the lamp to the correct height for the condenser. We also made a ring and a bent rod in order to support an ordinary mantle, as used for general illuminating purposes. In the lamp in question we used petrol, which is practically the same as benzoline, and after heating the burner with methylated spirit the vapour from the petrol continued to burn with a powerful non-luminous flame over which the mantle was suspended. With this arrangement we obtained a light of great power, but the noise was quite prohibitive, it being impossible to hear anyone in the room speaking



when standing close to the lantern, but the light itself, as we have said, was splendid, although under the crude conditions mentioned, we had some little difficulty in centering the light.

With the vapour lamp made for the purpose of lantern illumination by the Chicago firm alluded to, we are given to understand that the noise is reduced to a minimum. This we quite understand, for during a ten years' stay (1878 to 1888) in America, we had experience with burners of somewhat the same class, but intended for different purposes, with which there was practically no noise.

It is to be hoped that some English firm will either experiment with and bring out a light of this description, or import lamps of this style from the United States.

“Late of the Royal Polytechnic Institution” (?)

By EDMUND H. WILKIE.

(LATE ROYAL POLYTECHNIC INSTITUTION).

AMONGST the Editorial Notes in the columns of the OPTICAL MAGIC LANTERN JOURNAL for March of the present year, appeared a note which (with the permission of the esteemed Editor of the Journal) the writer would wish to utilise as a peg upon which to hang a few considerations which may be of value to some, and which can scarcely fail to be of interest to many.

We understand from this note that a correspondent directed the attention of the Editor to the fact that “a great number of lantern exhibitors claim late of the Royal Polytechnic Institution after their names, whereas, in some instances, he states, the particular exhibitors were not born or, at least, reached the years of maturity at the time that this institution was given up and devoted to the requirements of a totally different kind to the old days of the Poly.”

Possessing an intimate knowledge of the affairs and personnel of the late Polytechnic Institution for a number of years, and being connected with the company both professionally and financially, it will be readily understood that such claims possess a very considerable interest for the writer, the more so that as time goes on it becomes increasingly difficult to verify such statements.

If it is a fact that considerable numbers of persons claim to be late of the Royal Polytechnic Institution it would be interesting to learn in what capacity they were employed in that building.

I am given to understand that the majority at least of these persons style themselves “lantern operators,” and this gives us the impression at once that they formerly, at some time, filled the same post at the Polytechnic, otherwise, their position would entitle them to no present credit; as the fact of having cleaned the windows, swept the floors, or pasted the bills would not entitle them to rank as skilled operators or lecturers.

We are faced by the fact that a large number of persons are desirous of impressing upon the public the belief that they were formerly engaged in lecturing or illustrating the lectures at the Polytechnic and the reason must be that they hope by this means to enjoy a reflected

GENERAL ADVERTISEMENTS.

A PROFESSIONAL lanternist and cinematographist of great experience is open to engagements, with or without his own apparatus, in town or country, on very moderate terms. Reference, Editor of this Journal.—Address, Optics, 13, York-street, Walworth, London.

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| 2 Scene in the Mortuary Chapel, Osborne. | 20 The Bluejackets drawing the Gun Carriage from the Railway Station (photo). |
| 3 The Start of the Funeral Procession from Osborne, the King and the Royal Mourners following the Gun Carriage. | 21 The Bluejackets drawing the Gun Carriage in the Quadrangle at Windsor. |
| 4 The Royal Mourners following the Bier on Foot. | 22 The Queen's last journey—the Guards and the Funeral Cortège leaving Windsor for Frogmore. |
| 5 The Procession in Osborne Avenue, Queen Alexandra and the Royal Princesses following on Foot. | 23 "In Memoriam"—The World's Tribute. |
| 6 The Royal Yacht "Alberta" passing through the Solent. | 24 H.M. King Edward VII. (photo). |
| 7 The Royal Yacht "Alberta" with the Royal Catalafque entering Portsmouth Harbour, passing H.M. Training Ship "St. Vincent." | 25 H.M. Queen Alexandra (photo). |
| 8 The King and the Kaiser leaving Victoria Station (photo). | 26 The Proclamation at St. James' Palace. |
| 9 The Crowd at Hyde Park Corner (photo). | 27 " " " Temple Bar. |
| 10 The Funeral Procession at Hyde Park Corner, The Massed Bands (photo). | 28 The King in Council, His Majesty subscribing the Oath for the Security of the Church of Scotland, St. James' Palace. |
| 11 " " " Lord Roberts | 29 The National Anthem. |
| 12 " " " The Funeral Car (photo). | 30 Victoria Tower (photo). |
| 13 " " " The King passing by the Gate (photo). | 31 The Robing Room (photo). |
| 14 The Funeral Procession, Panorama of the Royal Procession passing through Hyde Park (slide 6½ in. long, plain 4s. 6d., painted 21s.) | 32 The State Coach passing Henry VII. Chapel. |
| 15 " " " The Funeral Car passing through Hyde Park (photo). | 33 The Royal Gallery (photo). |
| 16 " " " The Foreign Representatives passing through Hyde Park (photo). | 34 King Edward and the Queen passing along the Royal Gallery. |
| 17 " " " The Funeral Car entering Paddington Station (photo). | 35 Interior House of Lords (photo). |
| 18 " " " The King and the Royal Mourners entering Paddington Statn. (photo). | 36 The Throne (photo). |
| | 37 Opening of Parliament.—The King signing the declaration of his adherence to the Protestant religion. |
| | 38 King Edward VII. Opening his First Parliament. |
| | 39 King Edward VII. and His Queen Sitting on the Thrones. |
| | 40 A Legacy of Guy Fawkes.—Searching the Vaults before the Opening of Parliament. |
| | 41 King Edward and the Railway Collecting Dog "Tim" at Paddington. |

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PARIS Exhibition effects elaborately worked up on nature photographs principally from Mr. Wilkie's own copyright negatives.—“The Chateau d'Eau,” with marvellous effects, original, “The Luminous Palace,” “Old Paris from the river,” “The Belgian Pavilion,” “Rue des Nations,” and others with novel mechanical and dioramic effects and grand chromatic changes.—Edmund H. Wilkie, as below.

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EDMUND H. WILKIE desires it to be distinctly understood that these effects are produced by the identical artists who formerly painted the grand dioramic and mechanical effects for which the late Royal Polytechnic was so celebrated; no trouble or expense is spared in their preparation, and at the present time their value to public exhibitors cannot be exaggerated; it is of interest to lanternists to note that E. H. Wilkie is the only member of the lecture staff of the late Royal Polytechnic now engaged in the business of supplying these grand optical effects; these are not made by hundreds, but each slide receives the greatest amount of care and attention at the hands of skilled artists and mechanics; we originate and do not imitate; send for list of effects.—Edmund H. Wilkie, as below.

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credit, to steep themselves in the afterglow left by the departed luminary.

This is very satisfactory so far as the fame of that great institution is concerned, nothing could be more so, as it shows us at once the high estimation in which its memory is held; but to those who laboured in the first instance to qualify themselves for the positions of operators or lecturers, and who spent time, trouble and money in supporting its distinguished reputation, it is in the last degree exasperating to find unauthorised and presumably incompetent persons arrogating to themselves a credit to which they have not a shadow of a claim.

With regard to the status of those employed by the Polytechnic Company from first to last, the great majority would undoubtedly be lecturers, as I shall now proceed to show.

In 1864 I remember that Mr. John Stone was the chief operator. He was responsible for storing and arranging the slides, in addition to registering and exhibiting them; and now please let me direct your particular attention to the fact that he remained in this post continuously until the close of the institution in 1881. He had three assistants consecutively, and when the entertainment entitled "Der Freyschutz" was in the programme, one of the men engaged in other work in the building was pressed into the service to turn a handle connected with a waterfall effect.

We see clearly by this that by no possibility could there be any considerable number of men in a position to describe themselves as operators "late of the Royal Polytechnic." The number could scarcely exceed half-a-dozen, even allowing a little margin for those who may have occasionally officiated at the rack handle, which was rarely used.

Now, we must consider the lecturers, and here the field widens out a little.

It was the custom of the directors for some years to issue circulars during the summer months offering the services of their general staff of lecturers to London and provincial institutions at stated fees, and one of these circulars, dated 1877, is now before me.

The lecturers are grouped as follows:—

Chemistry.—Prof. Gardner.

Botany.—Dr. Edward B. Aveling.

Social Science.—Mr. Alsager Hay Hill, LL.B.

Sanitary Science.—Mr. J. S. Pope.

Music and Delineation.—Mr. George Buckland,

Mr. Seymour Smith, Mr. Ernest Walcot,

Mr. Frank Austin.

Astronomy and Mathematics.—Rev. W. A.

Willcock, D.D.

Philosophy and Dioramic Lectures.—Mr. J. L. King.

Memory.—Mr. Stokes.

Temperance.—Mr. John Ripley.

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Literary Subjects—Rev. W. Rayner Cosens,

D.D., Rev. F. G. Fleay, M.A., Rev. R. C.

Nightingale, M.A., Rev. E. M. Geldart,

M.A., Mr. Joseph Simpson, Mr. Edward

Simpson, Mr. W. H. Golding, Mr. W. R.

May.

and lastly—

Dioramic Lectures.—Mr. B. J. Malden, Mr.

Bridgman Smith, Mr. E. H. Wilkie.

This prospectus, which was authorised and issued by the institution, wound up with these words:—"N.B.—No persons but the above have any connection with the institution."

Subsequently Mr. T. C. Hepworth joined the permanent staff of lecturers to the Polytechnic, and so far as my memory serves me at the present moment we have here the entire staff of lecturers and operators who are justly entitled to use "late of the Royal Polytechnic."

Now, although 25 names are given above as being attached to the travelling branch of the Polytechnic, it does not follow as a natural course that they all lectured within the walls of the institution itself. The writer remembers no more than ten who actually did so.

Foremost amongst these stood Mr. B. J. Malden, whose name, so well known and respected in lantern circles, needs no further comment.

The lecturers may be roughly divided into three classes:—

1st. Those who delivered lectures or gave musical entertainments without apparatus of any kind.

2nd. Those who used scientific apparatus and a single or bi-unial lantern for occasional diagrams and pictures.

3rd. Those who lectured principally upon topics of the times and travels, and made a feature of grand dioramic and scenic effects of an elaborate character, using triple lanterns.

In the OPTICAL MAGIC LANTERN JOURNAL we are chiefly concerned with the latter denomination, and this branch consisted of three only, as we see by the list—Messrs. B. J. Malden, Bridgman Smith, and Edmund H. Wilkie; and beyond these three lecturers no others to my knowledge have any claim to use the name of the Polytechnic under the title of essentially dioramic lecturers.

If I am wrong, perhaps some one will oblige me by correcting this statement; but it is put

forward in good faith, and with the full belief that it accurately states the case.

Twenty years ago the mere fact of a man being selected as one of the Polytechnic staff of lecturers at once placed him in the front rank of his profession, the reason being that the standard of excellence was maintained at a high level, and in this the directors were assisted by the lecturers themselves, who designed their lectures with care and illustrated them fully by means of numbers of expensively prepared paintings and photographs.

Thus, by years of careful and painstaking work, the Polytechnic lecturers made for themselves a little niche in a quiet and unobtrusive corner of the Temple of Fame, which they fondly hoped would be theirs so long as they lived to enjoy it. But it was not to be; others unable to secure the favourable attention of the public by their own unaided endeavours, bedeck themselves in the borrowed plumes of "late of the Royal Polytechnic Institution," but in many cases the result is identical with that in the fable of the "Ass in the Lion's Skin." They have only to raise their voices to expose their deception; in other words, a "lecturer" of this calibre only opens his mouth to "put his foot in it."

The subject is not a pleasant one, but in the interests of the general public and the Polytechnic lecturers, those who use the words "late of the Royal Polytechnic Institution" without being entitled to do so, should be warned that they are describing themselves falsely, and are guilty of an impudent deception.



Why? Oil Lamps.

By R. J. MOSS.



TAKE the first step in lantern illumination, the oil lamp, how many, or rather how few, know why it burns, or shall I not be more correct in saying, why they get no light, but plenty of smoke?

Without going fully into the details of combustion, I will just mention that petroleum is exceedingly rich in hydrocarbon, and light is nothing more nor less than carbon particles brought to a state of white heat or incandescence by an inflammable gas. Now, if you light a petroleum lamp and do not put on the chimney there is more smoke than light. Why? Because there are too many carbon particles and not enough inflammable

gas to reduce them to a white heat, consequently, the carbon particles are unconsumed and go off in the form of smoke. But why the chimney? Simply to induce a current of air, largely composed of oxygen, to increase the amount in volume of combustible gas and make it sufficient, not only to render the carbon particles incandescent or light-giving, but to absolutely consume them; therefore when the combustion is perfect there is and can be no smoke.

But, says one, would it not be as well to put the chimney directly over the flame and let the oxygen come freely without all those bothering cones and sieves which are so much trouble to get at and so impossible to clean properly in a lantern lamp? Well, why do you break up coal before putting it on a fire if you want it to burn properly and give a good blaze, or why put on big lumps if you want it to keep in a long time and burn slowly? Just for exactly the same reason are the perforations, cones and grids put into a petroleum burner, viz., to ensure quick, proper and perfect combustion, by breaking up the fuel into

small particles.

If the air were to be sucked up in a body there would be plenty of heat, any amount of unsteadiness and clouds of smoke, but little light; by dividing or splitting up the oxygen at the proper distance from the flame and directing it by means of the cone so as to strike the flame at the most advantageous point, together with carefully regulating the length and size of the chimney, which sucks or draws up the air, perfect combustion is secured with absence of smoke and a pure white light.

I do not propose going into the why or the wherefore of the building up of a lamp because this is beyond the subject, and further, the lamps are provided with all these features carefully worked out, more or less. Now, please just look back and see what I have written means; first, the holes, sieves, cone and chimney are just arranged so as to give best results, and there is no room for alteration in the slightest degree if best results are to be obtained. We are always told to keep our lamps and burners scrupulously clean, trim the wick perfectly straight, etc., but we are not told why. We are not told that a lining of soot in the chimney, a coating of dirt, dust and oil, assorted, on the cone, a further collection of the same with the addition of sundry pieces of charred wick snugly nestling on the grid or sieve, all tend to reduce the proper and necessary supply of oxygen, and, therefore, by rendering

combustion less perfect, diminish the brilliancy of the light.

We are told to change the wick frequently but we are not told why. Many persons think that if the wick be long enough to reach the oil that is all that is necessary; but the fact is every strand of that wick is simply a pipe along which the oil flows to the burner, drawn thither through capillary attraction induced by the heat of the flame; further, that these tubes are very small and easily choked up by the impurities in the oil. Now it is a fact that if, through dirty wicks, which means choked pipes, the supply of oil is insufficient, then the heat at the burner is considerably increased; so much so, sometimes, that gas is given off by the oil in the vessel itself, that this gas is not only dangerous and liable to explode spontaneously, but it always seriously diminishes the luminosity of the flame.

Some sensible people tell us that it is a good plan to dry the wick before putting it into the burner, and then saturate it with oil at once. Why? Simply to dry out all the moisture and thus render the capillary tubes more useful for their purpose. Now, I think I have said enough to show why there is a need to keep lamps and burners scrupulously clean and to change the wick after using three or four times. It is just a study of these features that has enabled Mr. Stocks to produce his really splendid oil lamp. I do not hold a brief for him, but have from the very first admired the beautifully scientific construction and the careful provision for all kinds of rooms and buildings by the extending chimney, which increases the draught and ensures the most perfect combustion even under the most unfavourable atmospheric conditions.



All About Coast Villages.

By THOMAS BYFORD.

BY the time this article is in print the majority of lanternists will be thinking of putting their lanterns on one side, and they will probably not again see the light of day till September or October next. Some of those who have laboured long and well during the past winter in the various towns and villages will settle down to a well-earned rest until the lantern season recommences again, while others will doubtless engage in some occupation quite the opposite to

lanternism. I take it that it may not have occurred to the former that they are losing much valuable time and money by vegetating in this way. There may be others not acquainted with the lantern show business who would probably be glad to know how a holiday combining business with pleasure and showing a profit on the right side is possible.

There are dotted along the coasts of England, Ireland, Scotland, and Wales, hundreds of small villages which could be worked during the months of August and September. August Bank Holiday would be about the time to start, ending about the second week in September.

Coast villages have in the past been very much neglected by lanternists during the season, why, is an enigma. They are usually visited by good class people who complain of the dearth of amusements, and should anything happen to come along they are very liberally patronised. It has been argued that some coast villages are difficult of access. It must be admitted that some are, but nothing venture, nothing have.

Let us suppose that the coast of Cornwall has been chosen for a tour, to last seven weeks, which means that forty-two villages would have to be visited. One night only must be strictly followed, two nights in a

small village

is a mistake. Not a coast village must be missed; if the schoolroom cannot be obtained hire a barn, club-room at the inn, or any similar place. Visitors do not stand on ceremony, and will put up with any inconvenience in order to obtain something which will break the monotony of their surroundings.

It would be as well to mention here that the hiring of barns and club-rooms must not be followed when working inland villages during the winter months. Village folk are particular in the location of entertainments. Anything which is given away from the schoolroom is but poorly patronised. If one does not reside near the district proposed to be worked application should be made by letter to secure the necessary rooms. Endeavour in the first place to secure the schoolroom, failing which apply for the club-room at the inn; if there is no available room ask for information concerning a barn or any likely room. In communicating with people residing in villages it would be wise to enclose a stamped addressed envelope when a reply is asked for, one cannot expect something for nothing. For location and information of the various villages consult a county map and directory.

A big rent is never asked for a club-room or barn, five shillings would be a fancy price. Club-rooms are usually lent free of charge, it brings trade to the inn, but a farmer expects, and rightly, too, a small sum for the trouble involved in getting the barn ready.

Exhibiting in a barn means extra trouble for the lanternist. He must make a tour of the cottages and borrow chairs and forms, which villagers are only too pleased to lend. They should be returned after the entertainment or the following morning before leaving. If help is called in see that those who assist are paid and thanked for their services.

The printing is an item which requires more than a passing thought. Bills consisting of yellow paper and black ink are attractive without being vulgar. 1,500 window bills about 20 by 10, and 5,000 handbills for house distribution would be about the number required to cover the ground of tour. A printer would print the quantity required at a charge of about fifty shillings. About thirty window bills and one hundred handbills would be ample for a small village and they should be sent quite seven days before the date of

proposed visit.

Those for the schoolroom and barn should be sent to the shopkeeper for distribution, for the club-room to the publican. In the winter when the schoolroom has been lent it is the usual thing to send the bills to the parson or schoolmaster for distribution, but in the summer they are sometimes absent holiday making, therefore it would be useless sending bills to them.

The window bills should be exhibited in shops, inns, windows of cottages, a few posted up on walls, and the handbills delivered house to house. Two or three bills should also be sent to inland villages, this only applies to those within a radius of two miles. A charge of about one shilling is made for bill distributing, but in some cases payment is not the considerate point, those who distribute them are satisfied with the pleasure it gives to assist a fellow creature.

The slides must be chosen to suit the district one proposes working. If the coast of Cornwall, the chief item on the programme must relate to Cornish scenery, North or South Wales, Welsh scenery, and so on. Where no special slides for the district exist others must be chosen. Anything likely to interest visitors will do. "The Cannibal Islands" is a set which amuses and interests most people wherever exhibited. It is something out of the ordinary run and always awakens a keen interest in those lovely

but little known islands which are dotted all over the glorious Pacific. The special set must be supplemented by others to make up a complete evening's entertainment, the comic and artistic order for preference, in fact, anything not appertaining to too much silliness.

Either oil or acetylene gas should be used. The latter, of course, gives the better light, but given good oil and wicks a Stocks lamp will give a very brilliant light, quite sufficient for a small room. Paraffin oil is easily obtainable in villages, calcium carbide is not. It must be left to the lanternist to select which he deems best.

If one has, or can purchase, a pony or donkey and cart for the conveyance of apparatus from village to village a saving would be effected in the matter of local conveyance, for this usually runs into big figures on the coast during the season. To those who can walk the apparatus could be packed into a very small compass and be carried. Two large bags would suffice for the slides and sheet, which by means of a strap could be slung across either the left or right shoulder, and the lantern carried by hand. No portmanteau laden with clothes need be taken, a telegram would bring from home in a few hours, per parcels post, a change of clothes and linen.

The entertainment should commence at 8 o'clock and conclude by 9.45. Prices of admission—Front seats, one shilling; back seats, sixpence. A good plan is to

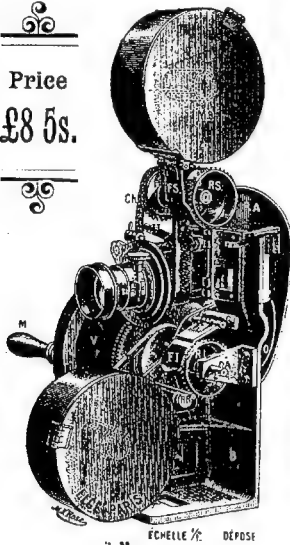
send some tickets

—say 30 shilling and 60 sixpenny—to the shopkeeper for sale and allow him a commission of 10 per cent. If he is a smart man no tickets will be returned. It has been known for visitors to buy up all the tickets on sale, and after retaining sufficient for themselves give the remainder to the villagers.

All business arrangements should be completed by the middle of July, dates arranged, bills printed, in fact, everything should be in apple-pie order for the start. About twelve guineas should be ample for the purchase of the lantern, slides, and other accessories. Of course, more could be spent, but it is not really essential, people don't look for big things in village shows.

If any reader of this article thinks favourably of what has been set forth, let him ponder awhile and think out in his own mind the possibility of enjoying a holiday which must be a success in every shape and form if carried out in a systematic way.

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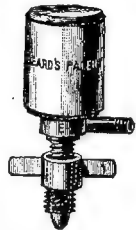
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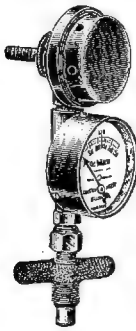
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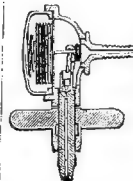
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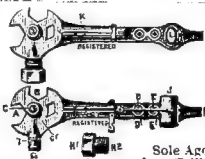
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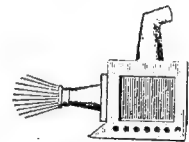


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PROBABLY most of the readers, especially those of a mechanical turn of mind, have guessed that the particulars of the slides given in this series have involved more primary study and experimental work on the part of the inventor than the making of the slides themselves. Such is actually the case! Though it is apart from the present work to suggest the opportune moment for the introduction of such a slide, it is known to all experienced showmen that the success of an exhibition may often be traced to the fact of having at the outset gained the sympathy of the audience by arousing their interest, in raising their expectation and stimulating the exercise of their imagination. As a matter of fact, since this series commenced in the OPTICAL MAGIC LANTERN JOURNAL many of the slides have been constructed by readers and exhibited with gratifying results. Hence, I am induced to continue what has already proved to be a service to our readers in the most practical sense of the word.

The slide now about to be described (the Hurdle Jump) embodies a two-fold action, inasmuch as the figure performs both the act of running and jumping. The figure of the man is cut out of thin metal (tinned iron, zinc,

or brass). Each separate part, with the exception of the arms, is shown in Fig. III. When these parts have been cut out they are connected together in the manner shown in Fig. II. It will be seen from the diagrams that the portion 6 comes first, or rather at the top; next the part 3, forming the breast and head; then by the side the centre link 5. The bottom

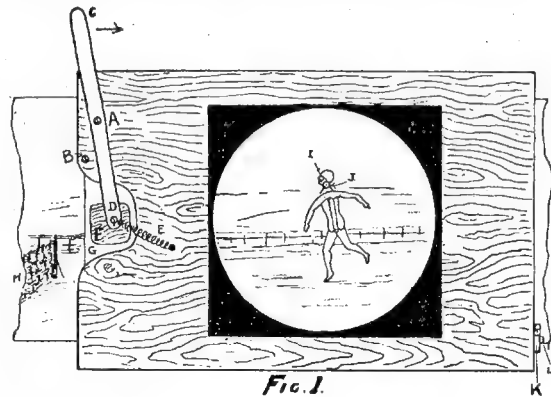


Fig. 1.

ends of these two parts are pivoted to the legs 1 and 2; the part 4, forming the back of the figure, is then pivoted to the leg 1, the top portion passing under 5.

The three holes—lower end of part 7, neck of the figure, and top end of 4—are all threaded upon the one pin, which actuates the model as described later. Before going any

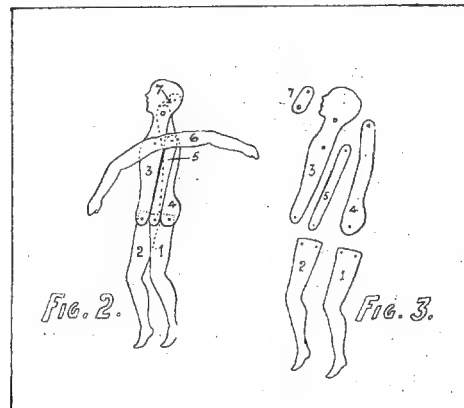


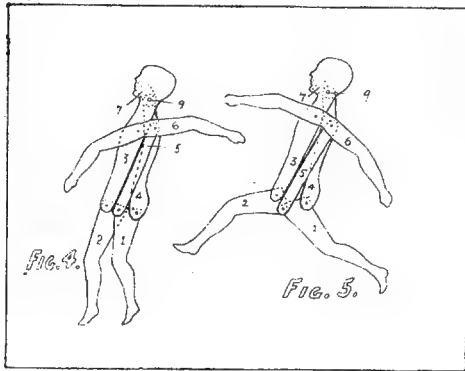
Fig. 2.

Fig. 3.

further it is necessary to make reference to Figs. VII. and VIII. Here we have an end view of the framework and the three glasses. The centre glass, on which the model is mounted, is permanently fixed to the framework, on the other side is what I may call the action glass; this glass carries a block furnished with a projecting pin that extends into the holes

made in the parts 7, 3 and 4. The opposite side of the framework is provided with a groove through which slides a long strip of glass. Referring again to Fig. II., the figure linked together in this manner is attached to the centre and fixed glass in the following manner:—A small circular block (shown in Fig. I. at 1) is first glued to the glass, then the top of part 7 pinned to it so that the pin forms a pivot. A second block (shown at 2, Fig. I.) is glued to the inside surface of the action glass, and the pin with which it is furnished is allowed to pass through the holes in 3, 4 and 7. Hence, the figure of the man is suspended by the link 7 and held in its proper position by the projecting pin just mentioned.

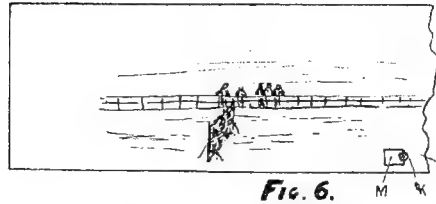
Now, we will consider the other fittings to be attached to the action glass. Referring to Fig. I., a block (F) is glued to the action glass, then



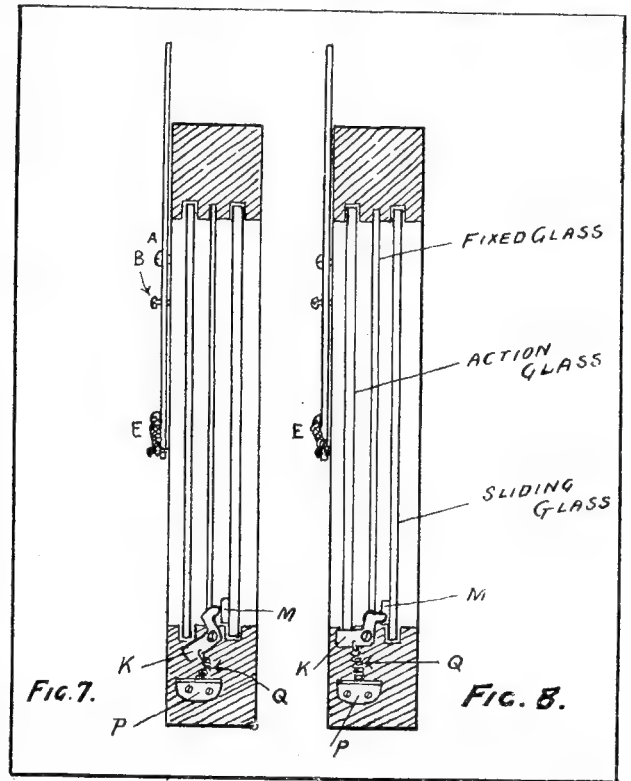
to this block a lever (D) is attached by means of the screw (B); a second screw (A) forms a pivot on which the lever may be moved to the right or to the left. The distance to which the lever may be moved to the right, or in the direction of the arrow, is set by the screw (B) which projects above the surface of the framework. On the opposite end of the framework, and near to the bottom of same, there is a catch (K) attached by the screw L; the shape of this catch is better seen in Figs. VII. and VIII. Now, whilst this catch is in the position shown in Fig. VIII. it is obvious that the movement of the action glass will be limited to about $\frac{1}{8}$ inch, so that the block (F), Fig. I., will not quite reach the edge of the framework; but if the catch be in the position shown in Fig. VII. it will be possible, by means of the lever D, to cause the action glass to pass beyond the end of the framework till the block F comes into contact with the edge of the framework. A spring (E), Fig. I., completes the fittings for this side of the slide and I shall now proceed to describe the means whereby the

catch K is caused to fall into the two different positions.

Fig. V. shows a portion of the sliding glass on which the background, figures the railings, and the hurdle are painted. At M a wedge-shaped block is glued in the position with its thin end to the right. The circle marked K indicates the position of the top of the catch K, better seen in Figs. VII. or VIII. Referring to



these figures, when the sliding glass is pushed in far enough for the block M to reach the nosing of the catch and no further, all the parts will be in the position shown in Fig. VIII.; but if the



sliding glass be pushed still further, the nosing of the catch will slide up the incline formed by the wedge-shaped block so that the catch is caused to turn on the screw by which it is attached to the end of the framework, and the

parts will assume the position shown in Fig. VII. Immediately the block has passed by the catch the latter will drop back into its original position as in Fig. VIII.

In order to clear up any doubtful point the reader may have in his mind as to the purpose of any particular part, I will briefly describe the way in which this slide is exhibited in the lantern.

When the picture first appears upon the screen the figure of the man is in the position of Fig. I., with the mechanism in the order shown. Now, whilst pushing the sliding glass slowly through the frame with one hand, the operator with the other hand moves the lever D backward and forward, and by reason of the peculiar construction of the figure of the man, his movements are such as represent the action of running, the effect being further enhanced by the background moving in an opposite direction to that in which the runner is supposed to be travelling. It is obvious that in due course the hurdle will come into view, and it is just at this point that the use of the catch and the wedge-shaped block is shown. Thus:—Until now the action glass will have been moving backward and forward within the limited space set by the screw B, and the catch K, but on the block M (see Fig. VI.) arriving at the end of the framework the catch will be automatically shifted from the position of Fig. VIII. to the position of Fig. VII., so that for the moment the block is passing the catch the action glass is allowed to slip $\frac{1}{8}$ inch to the right, *i.e.*, a little beyond the end of the framework. The effect of this increase in the movement of the action glass upon the running figure is such as to alter his position from that shown in Fig. IV. to that shown in Fig. V. Thus the body is somewhat raised, the limbs thrown into a striding posture, whilst at the same time the hurdle passes underneath as the sliding glass passes forward.

SUPPLEMENTARY LENSES.—A series of lenses for attaching to ordinary objectives for altering the focus and thus producing different effects, is being placed on the market by Messrs. J. J. Griffin and Son, of Sardinia Street, W.C. The mounting is of the style shown in cut, and the lenses are termed wide angle, portrait, telephoto, and copying.



The Optics of Trichromatic Photography.—Part V.

THE TRAILL TAYLOR MEMORIAL LECTURE.

Continued from page 35.

Owing to the great number of factors in this solution of the problem of colour photography, a very great amount of work remained to be done in order to realise the conditions of successful every-day practice and general application.

Without special cameras for making the colour records automatically and special devices for accomplishing the synthesis, the method could never have much practical value. Both Du Hauron and Cros recognised this fact, and the former especially sought to provide for these requirements, and made some brilliant suggestions, without, however, meeting all the practical requirements.

The principal optical devices employed in carrying out the process in its ordinary forms are special cameras, triple lanterns, and photo-chromoscopes. Within the legitimate limits of this lecture I cannot describe these in detail, but will mention their characteristic features and will give such references as will enable anybody to verify my statements and study the more intricate details.

A feature common to most of the cameras and photo-chromoscopes which have been proposed is the use of transparent reflectors, so disposed as to form three images with one objective or one view point when used as a camera, or to superpose the three photographic images upon the retina when used as a photo-chromosome. Both Du Hauron and Cros proposed the use of plane parallel clear glasses for this purpose. Du Hauron went further; recognising that the two separated reflecting surfaces would double the outline of the images and produce confusion unless the positive images were optically at an infinite distance, he proposed the introduction, between the reflectors and the image, of convex lenses at exactly their focal distance from the images.

This arrangement, as originally conceived, was optically efficient as a photo-chromosome, with the three images situate on different planes. In 1876 (British Patent No. 2,873, July 22nd), he designed a camera involving the application of this principle, in which the three convex lenses were used as image-forming objectives, with a separate adjustable diaphragm for each lens, in order to equalise the exposures, and the use of convex lenses in front of the camera to parallelise the rays for near objects. As the rays can only be parallelised for one plane at a time, objects situate in all other planes would still be doubled in outline.

In a combined camera and photo-chromosome the construction of which was first published in 1887, and which has been named the "melano-chromosome," the plane parallel glasses and convex lenses are so disposed as to bring the three images all on one plane; * but this construction involves the application of new ideas which I patented in 1834,† and a description of it is therefore not altogether in place at this point in my lecture. Waiving this objection to such an order of presentation, I will point out some of the defects of this instrument.

In the first place, it is optically imperfect except when used under certain well-defined conditions, because

* "La Triplix Photographique des Couleurs et l'Imprimerie," Paris, 1887, p. 357.

† That he did not originally contemplate a one-plate arrangement is proved by the wording of his specification of 1876, p. 15, lines 48-54.

the convex lenses are at three different distances from the view point. The effect of this is to introduce different degrees of barrel-shaped distortion in the three images, when used as a camera; and while this does not prevent the instrument from superposing the same images in synthesis, provided that they are images of distant objects, it is incapable of perfectly superposing to the eye three equal images, and it cannot be used successfully for photographing near objects, because, the image-forming lenses being at different distances from the object, the three images will not focus alike either as to definition or size.

Any photo-chromoscopic device which is designed for analysis and synthesis with the same colour screens, like this one, I would class as a toy. Made as two separate instruments, one adjusted for photography and the other for synthesis, it could be made to meet scientific requirements for the reproduction of landscapes in miniature, but the difficulty and cost of obtaining clear glass reflectors with perfectly plane-parallel surfaces, the fact that the images are not available for synthesis by other methods because not identical in perspective, the impossibility of focusing near objects on all three sections of the plate at once, the impossibility of diaphragming separately for the three lenses, and the small angle which the images subtend to the eye, are all serious defects. Another defect in the instrument as now constructed, due to the fact that the clear glass reflectors disposed at 45° angle to the axial ray have polarising properties, I shall describe later, also a defect of illumination of the image due to the relation of incidence and reflection with glass mirrors.

Charles Cros suggested positive synthesis by persistence of vision with a device constructed upon the principle of the zœtroscope, and his brother, A. H. Cros in 1889,* patented a device for carrying out this idea. Cros's instrument was of the three-step form characteristic of photo-chromosome, constructed with two transparent and one silvered reflector, but the images were blended by means of a rapidly revolving wheel having four plane silvered and two clear open sectors, in combination with another plane silvered mirror occupying parallel planes disposed at 45° to the axial ray, and the wheel revolved by pulling a string wound upon its axle. This device was intended to be used also as a camera for making the three negatives through the same colour screens.

Attention is here called to the fact that in this device the reflecting surfaces were inclined to the optical axis in the perpendicular plane; and there is no publication of the idea of inclining them in the horizontal plane previous to 1894. Charles Cros, in a communication to the Photographic Society of France in 1879 ("The Review of Games, Arts and Sports," Feb. 15, p. 221), in describing a transparent mirror device, expressly states that the mirrors are inclined at 45° to the sides of the box. Neither this nor any other persistence of vision device for this purpose has ever come into practical use.

The next conception of a photo-chromoscopic device was my own for which I applied for a patent in February, 1892.† In this device, the two transparent and one silvered reflector are supplemented by additional silvered reflectors disposed in parallel planes, in such manner as to dispose all the images on one plane, and the doubling of outlines was avoided by employing slightly wedged clear glass reflectors. This instrument could not well be made stereoscopic, and, although perfect in its performance as a monocular photo-chromosome, it was too costly and delicate in its adjustment for commercial manufacture.

(To be continued.)

* British Patent No. 9012, May 30, 1889.

† U.S. Patent No. 475,084, published May 12, 1892.

Notes and Queries.

E. H. Stevenson.—Cinematographic films are too expensive at present to expect firms to send those relating even to advertisements on such terms as you mention. Several ordinary lantern slides, however, can be had for the asking.

W. Saxton.—Broadly speaking, a saturator consists of a large tube containing, say, flannel rolled up. This is soaked with ether. Oxygen is passed in at one end and out at the other; whence it is led to the hydrogen side of a mixed jet. A stream of pure oxygen diverted by means of a Y piece is also led to the oxygen side. We cannot spare space to enter fully into all the details of construction; these appear in our back numbers. We note that you have only taken in this Journal for the last 12 months, but you can get most back numbers from our publishers. See those for July, 1893; November, 1894; April, 1895; and October, 1896. From those you will get all the information you want.

H. Pierpoint.—The sizes of the mechanical slide which you send will fit any modern lantern. By using sides of zinc screwed to the wooden frame you may be able to save a little space, as this will take up less room than wood.

H. T. Lloyd.—We note, according to sketch you send, that you have made an ether saturator consisting of two cylinders placed side by side and connected at end, each cylinder being stuffed with a "wall" of felt with a clear passage through centre, and that you want to know if it is perfectly safe to use. *Ans.*—We do not know exactly what you mean by "wall," but if stuffed with a roll of flannel it will do. Provision should be made for taking this out occasionally for drying purposes. Bear this in mind, so long as the lime is not made incandescent when the ether side of the jet only is turned on, it will be all right; but if under the conditions named the lime becomes incandescent, then this denotes that you have a more or less explosive mixture, and when turning out will in all probability get a good pop. The remedy is first to try warming the saturator, and if this does not mend matters, then you require a further charge of ether. Be careful to keep away from a light when recharging.

R. M.—The letter which you enclosed has been returned. We can only say that it is all rubbish, and that if you set to work according to the information it affords, in all probability there will be a funeral before long, and you will be the "honoured" party.

Edgar Oates.—Relative to our reply in last issue, stating that you would not find acetylene gas powerful enough for the projection of animated photographs in a public hall, Mr. Fred Lewis, a society entertainer, of Chipping Norton, writes to say he uses acetylene gas for animated photographic work and obtains a very bright picture about five to seven feet wide; but notwithstanding this gentleman's endorsement of this light for the purpose we still hold to our answer as contained in last issue. Of course, everything may turn on what is termed a good illumination, and we think we know something about this item. A good deal depends on what sort of light one has been used to.

Heriot.—Thanks for your suggestion; we will see what can be done. We must confess our ignorance as to who makes Frith's Cosmoscope; perhaps some reader may know.

C. A. Bassett.—Thanks for the details; we publish them elsewhere in this issue.

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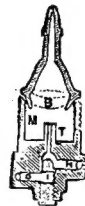
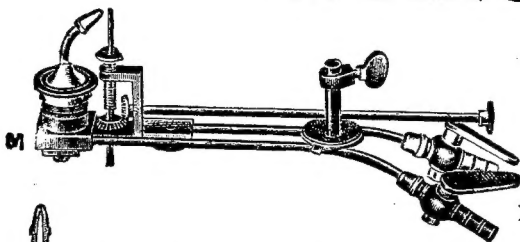
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which is connected with the house pipe, and forces it
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